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Rural Lines

RURAL ELECTRIFICATION ADMINISTRATION • U. S. DEPARTMENT OF AGRICULTURE

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OFFICE OF AGRICULTURE

Mobile Radiotelephone

For You—P 3

Electric Section—P 15





A Message from the

ADMINISTRATOR

I noted the other day that the Bailey County Electric Cooperative Association in Muleshoe, Texas, has taken down the "REA" sign from the side of its headquarters building. The "REA" initials mean a lot and are a symbol of rural electrification. However, Manager D. B. Lancaster decided that in his area the time had come to emphasize the fact that the co-op is locally owned and locally managed.

I am attached to the familiar "REA" initials myself, but I have to go along with the wisdom of Mr. Lancaster's decision. During recent months, at least one television network and one national magazine have confused REA with its borrowers. We pointed out these mistakes, of course, but it doesn't surprise us when such errors occur.

I know of several co-ops that answer the phone, "REA," whenever we give them a ring. Frequently, members of my staff ask directions to co-op headquarters in a strange town, only to have townspeople shrug and say they never heard of the outfit.

"It's the REA co-op," our people have to explain.

"Oh, the REA," comes the reply. "Why didn't you say so?"

Some of our mail at REA comes from people who think that the Government owns and operates the co-ops. It is a costly business to write explanations to these correspondents, one by one. Still, you can't blame them. They have seen the big, red "REA" sign on many co-op buildings, trucks, and letterheads.

When needed, I can't think of any simpler way to emphasize the local nature of your co-op than to play up its name.

Rural Lines

Administrator.

John H. Howard, Editor. Contributors to this issue: William M. Baker; Donnan E. Basler; A. E. Becker; Donald Cooper; Virgil Hassler; Bernard Krug; Louisian Mamer; William W. Newman, Jr.

Front Cover: A subscriber many miles from home dials a call on his mobile radiotelephone. See story on page 3.

MOBILE RADIOTELEPHONY FOR YOUR SUBSCRIBERS?

Everyone seems interested in the mobile radiotelephone these days. It isn't a new device, and mobile radiotelephony service isn't new either. Big cities have had this service for years, and it has never before caused any feverish excitement. The rapidly mounting interest in mobile radiotelephone service is due to the fact that dial equipment, a fairly new development, is now on the market.

You may be receiving inquiries from prospective subscribers. Your

local radio salesman may be giving you considerable attention these days, with an eye toward making a sale. If so, it is time to stop and take a good long look at the whole situation. It isn't a service you should offer to your subscribers without considerable thought.

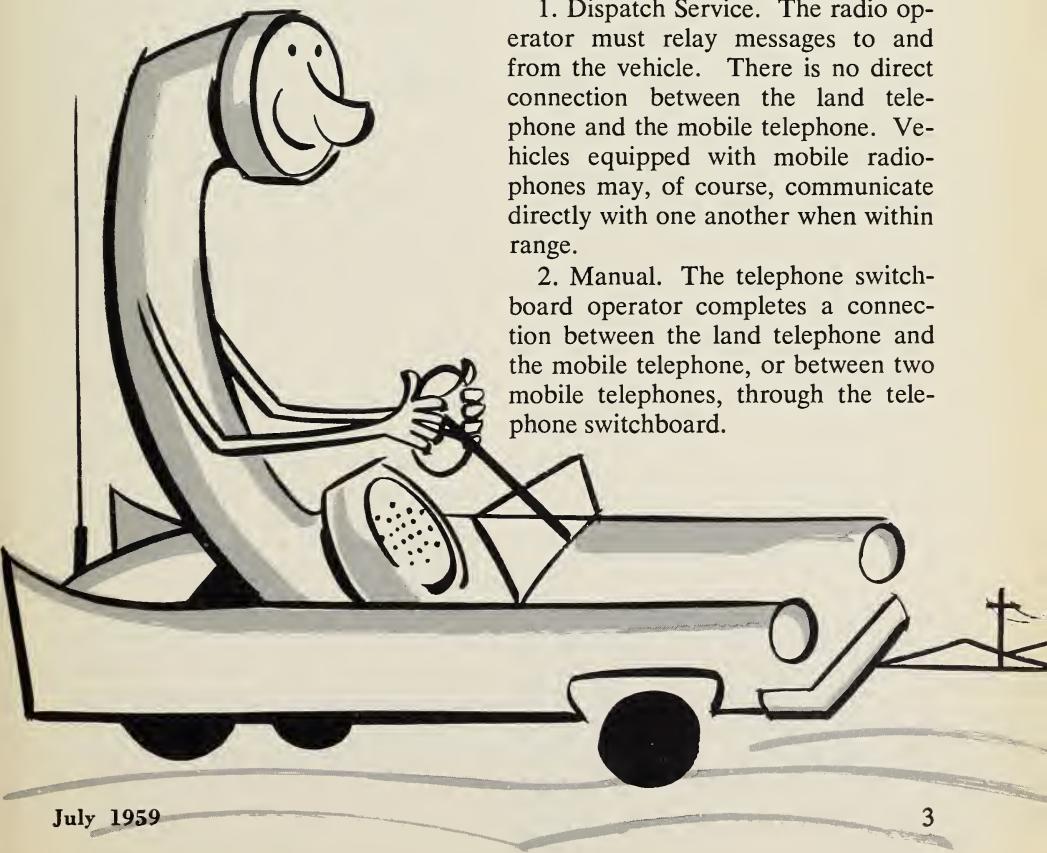
SERVICE CONSIDERATIONS

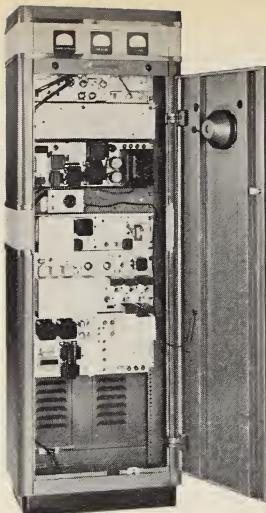
The wire line telephone service you are now providing your subscribers is excellent. They will want radiotelephone service that is just as good. Before you offer the service, you must know all its strong and weak points. You must consider what mobile-radio systems are available, and what facilities are available for maintenance of the system once you have it installed.

There are three ways to provide mobile radiotelephone service:

1. Dispatch Service. The radio operator must relay messages to and from the vehicle. There is no direct connection between the land telephone and the mobile telephone. Vehicles equipped with mobile radiophones may, of course, communicate directly with one another when within range.

2. Manual. The telephone switchboard operator completes a connection between the land telephone and the mobile telephone, or between two mobile telephones, through the telephone switchboard.





Typical base station equipment.

MARKET CONSIDERATIONS

Once you've made up your mind that you would like to go ahead, the next step is to find out whether you have enough market to justify mobile radiotelephony. Radio equipment is expensive. The rates you'll have to charge to reimburse yourself for your costs are high compared with those required for wire line. You must make sure that your potential subscribers fully understand what the cost of service is apt to be; you may otherwise find that many of them are simply gadgeteers who will later decide that they really don't need mobile service as much as they thought.

3. Dial. The connection between the land telephone and the mobile telephone, or between two mobile telephones, is completed by the dial central office equipment.

Dispatch service is relatively simple and is well proven; dial service is the most complex. REA borrowers generally can provide dispatch or dial service; only a few who operate manual central offices could provide manual service. The industry has had much experience with dispatch service and the service has proven to be good. It has a disadvantage in that it does not provide a direct link between the two parties to a conversation. On the other hand, it gives management a degree of control as well as knowledge of the extent to which facilities are used.

All three systems—dispatch, manual, and dial—provide party line service, usually with from ten to thirty subscribers sharing a single circuit.

Mobile radiotelephony has an aura of glamor; it has great sales appeal to prospective subscribers. However, the equipment is complex and costly. Dial mobile radio equipment is still quite new. Facilities are still being built and tested. Several systems are in service on a field trial basis.

The market survey you make must be thorough. All prospective subscribers should be interviewed, and be told about potential costs and the limitations of the service. A potential subscriber may want to use his equipment in adjoining areas that already have mobile radiotelephone service. Is special arrangement necessary for your mobile equipment for communication in these neighboring service areas? There are many problems. In analyzing your survey, make a minimum allowance for future growth. The equipment is flexible; it can be expanded as the market develops.

No doubt you will receive requests from interested subscribers of adjoining telephone systems. Discuss these requests with the owners of these systems to ascertain their plans for possibly providing the service and to obtain their consent to serve their subscribers. You would appreciate the same consideration if you were in their shoes. Also it is good business, since it provides you protection from immediate loss of subscribers, even if they decide to serve their own sub-

A control head for mounting in a vehicle.

scribers at an early date. Agreements for you to provide service to their subscribers should be concluded in a written contract between the two systems. This can provide for full participation, partial participation, or no participation by the adjoining system in service to its subscribers.

TARIFFS

Provision of mobile radio-telephone service requires special tariffs. Your proposed tariff should be discussed with your State regulatory body. Because of the lack of switchboard operators, dial mobile radio service must be provided on a flat rate basis with present equipment. If you provide manual or dispatch service, you may adopt a message unit basis for payment. This has the advantage of dividing the costs on the basis of use. Because of the investment involved in mobile equipment a minimum service period of not less than one year should be adopted. This will also serve as a deterrent against gadgeteers. A tariff should include installation charges and charges for miscellaneous additional service as well as the basic charges for mobile radio-telephone service.

There are several suppliers of mobile radio equipment of both the dispatch and dial type. Investigate before you buy. One important consideration is availability of maintenance and service facilities. Although competitive bidding is not required, you should obtain quotations from more than one supplier for comparison purposes to determine that you are getting the best price for your equipment.

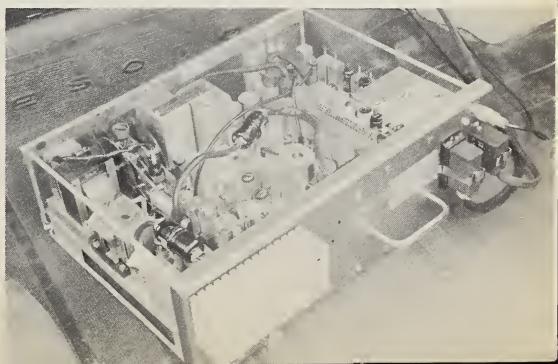
It will be necessary that you obtain

A mobile transmitter - receiver unit.



a construction permit from the Federal Communications Commission. REA Bulletin 385-1 includes suggestions which you will find valuable in submitting your application. Unless you have sufficient liquid assets to cover the investment you should arrange your financing before submitting the application to FCC. That agency normally will not approve an application until it can find that the applicant has adequate financing for the radio system. A disadvantage of applying for the permit too far in advance is that the permit has a definite period in which construction must be started.

If you want REA financing there are certain requirements which must be satisfied. The first is an acceptable thorough-going survey of the market, and an adequate sign-up of prospective subscribers. The second is an outline of your proposed system and an estimate of the required investment. If a loan is made funds will not be released until necessary Commission and other approvals and permits have been obtained. Written agreements with neighboring telephone companies will be necessary if you propose to serve their subscribers. You must have established tariffs. Mobile radio-telephone service may have a place in your system. A careful survey will tell you if it does.



TELEPHONES

and the

TURNPIKE

If a superhighway comes slicing through your countryside, what does it do to your telephone system? Is the limited-access turnpike a friend or foe?

Rural areas are especially susceptible to the impact of the new freeways and toll roads. Planners and engineers attempt to avoid the high cost of property condemnation and construction in crowded urban areas.

Farmers, suburban home owners, and businessmen in the small rural communities are becoming more and more aware of the effects—both good and bad—of the new highway network that will spend more than \$30 billion during the next four years.

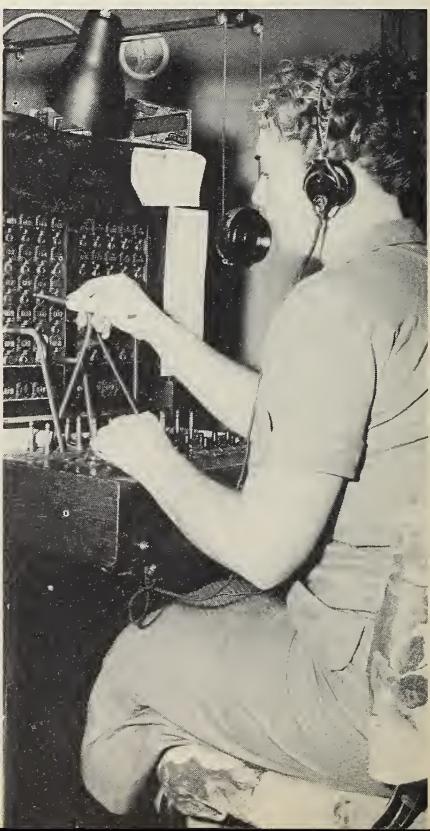
Some borrowers have already experienced the new conditions. One of these is the Breezewood Telephone Company which sits astride the Pennsylvania Turnpike on the border of Fulton and Bedford counties. Walter Nave is president of the company, and his son Howard is general manager. They obtained REA financing to rebuild the system and expand service to rural subscribers in this part of southern Pennsylvania. In rehabilitating their telephone business, the Naves took into account the expanding needs of the major turnpike interchange at Breezewood. Today, with

Mrs. Howard Nave was operator of the Warfordsburg exchange before it was cut over to dial.



the new dial system in operation, they are faced with an additional highway construction program. A new four-lane divided highway will connect Hancock, Maryland to the Breezewood interchange.

The Breezewood Telephone Company had 110 stations within its magneto system when Walter Nave bought it in 1939. At that time there was one toll line available to the system. This one line was ample for the long-distance calls then being made by subscribers. Most of the calls originated from the one combined garage and service station which then





served automobile travelers along Route 30. Construction of the Pennsylvania Turnpike, one of the first limited-access highways changed the nature of the Naves' telephone business. They continued to provide the best possible service to farm subscribers. In addition, their telephone system expanded and grew with Breezewood.

The change is reflected in the number of businesses they now serve—businesses built to accommodate the truckers, commercial travelers, and tourists who use the Turnpike.

Today their subscribers include 7 garages and 30 service stations. They serve 17 motels with 200 units. Three of these motels have PBX installations. Other new business subscribers serving the turnpike include 15

restaurants, a bank, and a tourist museum.

In addition to the business telephones, the Breezewood system has installed three pay booths and 12 pay stations.

The Naves can remember when the company did not have 200 toll calls a month, including those to the neighboring towns of Everett and Bedford. "Back in 1939 the operator kept her toll tickets in a thread box," Walter Nave recalls. Calls to Everett no longer require a toll charge since the establishment of EAS. But the number of toll calls has mounted to some 7,000 per month during the winter and double that figure in the summer.

The Naves estimate that more than a third of their gross revenue

Left to right:
Howard Nave,
Mrs. Walter
Nave, and
Walter Nave.



now comes from the traveling public. Toll revenues exceed those originally anticipated at the time REA financing was arranged and continue to mount.

In June 1958 the Breezewood Telephone Company cut over the last of its three new dial exchanges. "By going dial we pleased a lot of people. They were all willing to pay the new rate for the improved service," Walter Nave says. Subscribers on four-party lines in the base rate area and on eight-party rural lines pay \$3.75 a month.

The company now has 892 main stations plus 186 extensions.

However, a new set of problems faces the Breezewood borrower. Route 126 is being rebuilt as a limited-access highway, with a right-of-way so ample that several miles of telephone line must be moved. In some portions of the route the valley is narrow, too narrow for anything but the river and the proposed highway. A new right-of-way over the hills may have to be established for telephone service. The cost of such telephone construction must be borne by the company, as existing statutes do not provide financial assistance for moving utility lines in connection with the new highway program in

this state. Maintenance costs may rise as a result of relocating pole line. Most of the existing lines parallel the roads in this area. "When the new highway is built some portions of our lines are not going to be readily available to our service trucks. We don't know what arrangements can be made for stopping on the new limited-access highway, and there may not be any way to get a truck close to lines which we have to move out of the valley at the narrow points," Howard Nave points out.

The Naves also are concerned over the loss of businesses which will be cut off by the new routing of Highway 126. However, they expect that this will be more than offset in time by new subscribers—service stations, restaurants, and motels on the new route.

"We will probably see a repetition of the development which came in with the Pennsylvania Turnpike," Howard Nave points out. "We believe this means new growth and additional prosperity for the Breezewood community and the entire area which we serve. This is going to be a difficult period, but when it's done the advantages are going to outweigh the difficulties."



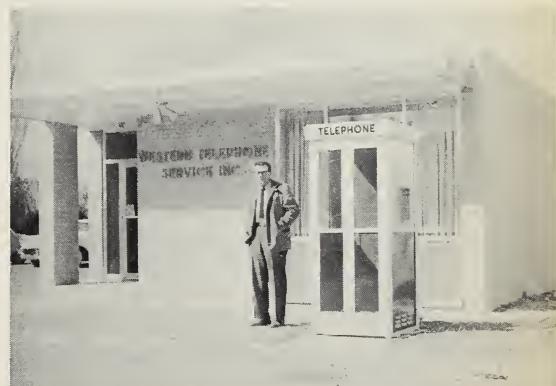
Howard Nave receives instructions from Walter Nave before going on trouble call.

ALWAYS LOOKING FOR NEW IDEAS

In the Texas Panhandle they make sweet uses of adversity. The flat, semi-arid land recently had 7 years of drought. Panhandle ranchers began to drill irrigation wells, which ushered in a new era of prosperity for the region. The men who settled the Panhandle returned from the Civil War flat broke, found their cattle herds scattered and their homes destroyed. Instead of letting it get them down, they rounded up the wild cattle herds, drove them north to the end of the railroad, and thereby established the fabulous ranches of that area.

J. I. Ricketts, president of the Western Telephone Service, Inc., of Vega, Tex., is a man in the Panhandle tradition. He spends a lot of his time out on his system's lines, figuring out new ways to sell service to housing areas, motels, and other enterprises that do not yet exist, but which will exist if Ricketts can promote them.

The Western Telephone Service's office is operated by Mrs. Ricketts and Mrs. Anne Haliburton. It takes them 5 days to do a month's billing, including a microfilm of all records. Each subscriber gets his bill, along with all toll tickets. The latter have



J. I. Ricketts in front of his specially-designed headquarters.

complete data as to where the call was made to, from where, at what hour of which day. This saves a lot of needless argument about toll tickets. With complete data on each call, only 1 percent a month call in with inquiries about their toll tickets.

On many accounts if the bill is not paid to the telephone office by the 10th of the month, the telephone company collects by draft from the bank.

This kind of arrangement is to the liking of about 40 percent of Ricketts' subscribers, from whom he has obtained authority to draw such drafts. It isn't hard to get such authority,



Radiotelephone keeps Ricketts in touch with his office while touring his system.

Ricketts finds, from subscribers with bank accounts. Once you have it, there isn't much chance that you will lose the subscriber.

The Western Telephone Service system, over which Ricketts keeps a watchful eye for new ideas, spreads across Hartley and Oldham counties west of Amarillo, as well as an area near the industrial town of Borger, northeast of Amarillo in Hutchinson county.

Ricketts' headquarters are in the small county seat town of Vega, 40 miles west of Amarillo on US 66. The telephone company's building is designed to be thoroughly fireproof and completely insulated, as well as to save every inch of usable space. The Western Telephone Service owns exchanges at Adrian and Willdorado, both near Vega. All three towns are on flat, fertile Panhandle ranch land. Several years of drought have led to

extensive well-drilling in this area, for irrigation. As a result, the area is increasing its yields of crops and beef cattle, and live stock feeding has become increasingly important. This is one of the developments which Ricketts watches, since it can mean more telephone service.

Between Ricketts' exchanges of Hartley and Channing, in Hartley County to the north, are many miles of rough, broken country through which the Canadian River winds. This is a region of huge ranches, including some of the Panhandle's most famous. However, the area has few subscribers. Ricketts figures that it costs a maintenance truck around \$25 to \$30 a trip to go to Hartley from Vega and back. Therefore, he is putting in armor-plated buried cable wherever the soil and terrain make it feasible. There will be 104 miles of buried plant in all.

The Channing exchange, not yet cut over, is in charge of Miss Emma McGill, who has devoted much of her life to operating the old magneto switchboard. Ricketts figures that you can replace an operator with dial equipment, but that you can't afford to replace a personage as important to a community as Miss McGill. He has worked out a retirement plan for her, and hopes that she will keep on as a representative of the Western Telephone Service even after retirement.

"Old telephone people are invaluable in public relations," says Ricketts. "New telephone companies need young ideas—and old ideas too."

One of Ricketts' far-seeing ideas has to do with Boys' Ranch and its



The new exchange at Channing sits alongside the old one.

site, which was once the historic and bloody cow town of Tascosa. Boys' Ranch is the creation of Cal Farley, an entrepreneur and philanthropist from Amarillo. The ranch was built to rehabilitate problem boys from big cities, and was financed largely by peace officers' donations. It now houses 270 boys and is expected to accommodate 600 boys. The 150 people who run the ranch and teach in its accredited high school live in Channing. Ricketts believes Boys' Ranch and the colorful Boot Hill cemetery of Tascosa will be top tourist attractions with the projected development of US Highway 51. Consequently, he is busy promoting the Ranch, and also trying to interest motels and other tourist accessories into developing in the region.

Ricketts also serves gravel pits, oil rigs and water rigs along the line from Vega to Channing. Three operators handle his toll circuits. He has seven circuits to Amarillo, two each to Will-dorado and Adrian, and three each to Channing and Tascosa. Several of his oil rig and ranch subscribers are served by mobile radio. His mobile tower near the Western Telephone Service headquarters is 250 feet high and has a 20 foot antenna.

Fritch, the Ricketts exchange near

Buried plant goes in easy on long stretches of the Panhandle.



Borger, is an industrial housing suburb that is growing rapidly. The Fritch exchange, in charge of Ricketts' son, now serves 351 subscribers, and is growing rapidly. Ricketts' entire system now has 1053 subscribers with 98 extensions. He has a 5-year forecast figure of 2000 subscribers.

Ricketts hopes to have his own toll center shortly, and to own half the toll line to Amarillo, perhaps working the line by microwave.

Joan Paschel and Dolly Williams take care of two of the three toll-board positions.





Minford telephone maintenance truck, shown here with Construction Foreman Lyle Bonzo, is familiar sight along telephone lines.

When Construction Foreman Lyle E. Bonzo of the Minford Telephone Company, Minford, Ohio, gets the company truck ready to work on the company lines, he checks it over thoroughly. Bonzo and Lineman Ellis Allen do all maintenance work on the Ohio system. They take special pride in outfitting the truck with safety equipment and checking it regularly. They also regularly inspect climbing belts and gaffs, flares and flags. They replenish the first aid kit every time it is used, and otherwise maintain first class safety practices.

The Minford company believes in safety, and as a result won a "no reportable accident" award last year, as did another Ohio borrower, the Ottoville Mutual Telephone Company.

"We are a small organization," says John R. Chatfield, Minford's secretary-manager, "but we are a safe one. We are proud of the award we won, and want to win one every year."

The Minford company provides modern dial service to more than 600 subscribers over two exchanges in Minford and Stockdale. Its area is in Scioto County, across the Ohio River from Kentucky. The Stockdale exchange was cut over in April 1959, and it already has 60 more applications for service received since cut-over.

In August 1958 the company

Minford-

moved into its new brick headquarters and celebrated the occasion with a big open house.

One of the company's biggest subscribers is the Scioto County Airport which serves Portsmouth and the populous industrial areas thereabouts. The company provides modern tele-



Here is Alva J. Allen, Minford plant superintendent, with dual fire alarm system he and friend Bill Dodson put together for local volunteer fire department. Device is installed in telephone company headquarters. It receives high praise from Fire Chief Argile Bowman for promoting community fire safety.



It's
settles

Roy W.
also m
pointin

SMALL but SAFE

phone service to the airport, and it also installed and now maintains an antenna-operated "homer" beacon, located 5 miles from the airport, that automatically guides pilots into a safe landing pattern. Roy Wells, airport manager, is also a board member of the Minford Telephone Company.



ng time at Minford office as E. B. Montgomery with Minford's pretty bookkeeper, Betty Moore.

In cockpit, is on Minford board of trustees and is local airport. That's Pilot Mark Derickson it features of his new plane.



Glenn Potts, airline resident manager, checks communications and safety equipment of Scioto County Airport, served by Minford company.



Another trouble call is due to be crossed off books as Lineman Ellis Allen climbs Minford pole to investigate cause of complaint.

TWO ARE 100% SAFE

Two REA telephone borrowers were among the 19 Ohio telephone companies who won recognition from the Ohio Independent Telephone Association and Industrial Commission of Ohio this year for perfect safety records. The Minford Telephone Company was one. The other was the Ottoville Mutual Telephone Company of Ottoville. Both REA borrowers received awards for no reportable accidents during 1958.



New Commuters Want It Modern

Commuter housing developments like this one at Brandon, S. Dak., are reshaping the future for many rural telephone systems.

The mounting flow of city families into rural areas poses new problems as well as opportunities for many rural telephone systems.

The commuter rates telephone service high among the factors that govern his choice of an outlying rural area for a home site. His range of choice is limited by the type of service available outside the city. Modernization is the answer in most cases—modernization to bring service up on a par with the cities and to enhance the appeal of rural areas as new home sites.

The city-man's view was tersely stated by a newcomer on the lines of an REA borrower, the Garretson Cooperative Telephone Association, Garretson, So. Dak. He recently bought a new home in the unincorporated village of Brandon, So. Dak., and moved his family from Sioux Falls, 10 miles away.

"As a city worker who lives miles distant from his job in town, I simply must have the best possible telephone service day or night to keep me in

touch with my job. I would not dare move beyond the range of a good communications network."

Like other newcomers to the growing Brandon housing development, he will enjoy modern dial service in the not distant future when the Garretson Co-op cuts over Brandon to dial. The co-op has acquired the Brandon Telephone Co., a magneto system, which serves some 233 subscribers. Brandon's present 12-hour service will be lengthened to round-the-clock service after the cutover.

The growth of Brandon is a study in miniature of what is taking place in numerous rural areas. In 1954 the Brandon system had 195 stations. Three years later it had 233.

Thomas E. Wangness, secretary-treasurer of the board of directors, and vice president of the Garretson Bank and one of the founders of the co-op, is optimistic about the future. "The growth potential is there," he says, "and the co-op is prepared to foster that growth with the best possible service."

PLEASE RETURN YOUR FORM 146 PROMPTLY

Electric borrowers will shortly receive REA Form 146, "Planned Loan Applications—Distribution Borrowers," or Form 146a, for power-type borrowers. This year the form has been simplified, in order that it can be made out quickly. It covers only the applications borrowers plan to submit during each of fiscal years 1960, 1961 and 1962.

REA hopes that all borrowers will fill out and return these forms immediately.



COCHISE would be amazed

If the famous Apache chief, Cochise, should return, ghostlike, to his old stronghold in the Arizona county named for him, he would be amazed. Down below in the Sulphur Springs Valley, where he used to see the avenging cavalry approach, he would see thousands of braceros from Mexico harvesting lettuce. The irrigation pumps that made the lettuce grow on this stretch of Arizona desert are served by the Sulphur Springs Valley Electric Cooperative of Willcox.

In the Apache Pass he would see another kind of pump, also served by a Sulphur Springs Valley Co-op substation. This one helps push petroleum products from El Paso to Phoenix through Southern Pacific Pipe Lines. It is interesting that the fully automatic pumping station was installed in 1958 just 100 years after the famous Butterfield Stage Company started along the same route.

Chief Cochise would be baffled by the missile age missions of his old adversaries at Fort Huachuca, and by the mushrooming housing developments around the fort. These, too,

are served by the Sulphur Springs Valley Electric Cooperative.

Cochise, however, would not need to feel forgotten in the changed scene. His battles are fought over and over again, every day, on a more photogenic site a little further south. The movie and TV cameras and Klieg lights get their power, also from the Sulphur Springs co-op.

All this activity, you might think, must be burning up the transmission wires of that rural electric cooperative. The strain is great indeed, creating an urgent need for the co-op to heavy up its system and acquire generating facilities.

The Sulphur Springs Valley was cow country back in 1938, shortly after the co-op's lines were energized. Willcox called itself the cattle-shipping capital of the West. The co-op then had 710 members and 269 miles of line. Now it has about 2,000 miles of line and 4,475 members. It has 7,500 hookups.

Besides the Cochise County lettuce boom, there is a boom in cotton, a new charcoal industry, and a housing boom. The big boom is lettuce.

The Sulphur Springs Valley, which extends from north of Willcox to Douglas on the Mexican border, is a fertile valley resting between lofty, rugged mountain ranges. It has been blessed with an abundant supply of ground water which, since 1946, has been extensively developed for irrigation.

Everything was going along on a very steady basis for Bernie Loving, the co-op manager, and his staff, until recently. There had been a steady increase in demand for power in Cochise County. Because of increased operations at Fort Huachuca, the town of Sierra Vista several months ago had boomed and mushroomed practically overnight.

After the Sierra Vista bang, there came lettuce—lots of lettuce. Several factors contributed to, or led up to, the planting and harvesting of more than 6,000 acres of top-quality lettuce the first year.

Some of these were: (1) that the market for fresh vegetables is ever expanding with the population increase; (2) the California lettuce growing area, centered at Salinas, is faced with a decrease in production due to depletion of soil fertility and increased diseases—floods of last year prevented seeding of much of the crop; (3) growers were ever searching for locations where cost of production is reasonable and where shipping facilities were adequate; (4) growers

were looking for soil, water and climatic conditions which were favorable and where top-quality vegetables could be grown which would reach the market at opportune times.

The valley in the vicinity of Willcox met all of the above requirements, as well as being near the source of plentiful hand labor in Mexico. The Chill-Vac Corporation, backed by Crystal Ice and Storage Co. and City Products Inc. of Chicago, believed in the Willcox district so strongly that they have constructed a "cool" million dollars worth of processing plants and equipment to handle the lettuce crop. Time from the field to the refrigerated railroad car averages only 4 hours. The sequence follows a pattern of hand-cutting, packing in cardboard cartons and loading on trucks; the truck is unloaded in one operation by a fork lift; the cartons are placed in a vacuum tube and cooled to 32.5 degrees; then, by way of a conveyor belt, are loaded for shipment in a pre-iced or refrigerator car. Facilities for shipment of 200 cars daily are now completed, or will be soon.

Buyers, in order of priority, are the armed services, chain markets and independents. They state that the quality of the lettuce is excellent. The existing 6,000 acres may be expanded to 18,000 acres of lettuce alone, with a spring and fall crop timed to mature to fit market needs.

The Chill-Vac ice plant is a 2,000-horsepower load, the cooling tubes are a 2,000-horsepower load, and they are served by two 1,500 KVA banks. Other installations require additional power, and new installations under construction will add to the load.

Thousands of migratory workers are required for the Sulphur Springs Valley lettuce harvest.





The Sulphur Springs coop's employees' Christmas party is a gala affair.

The town of Willcox is bursting—in fact, no seams are left. No vacant homes, rooms or house trailers are to be found. Two housing projects, totaling 300 homes, are now in process. Those businesses which are furnishing services, such as cafes, stores, etc. are working at capacity



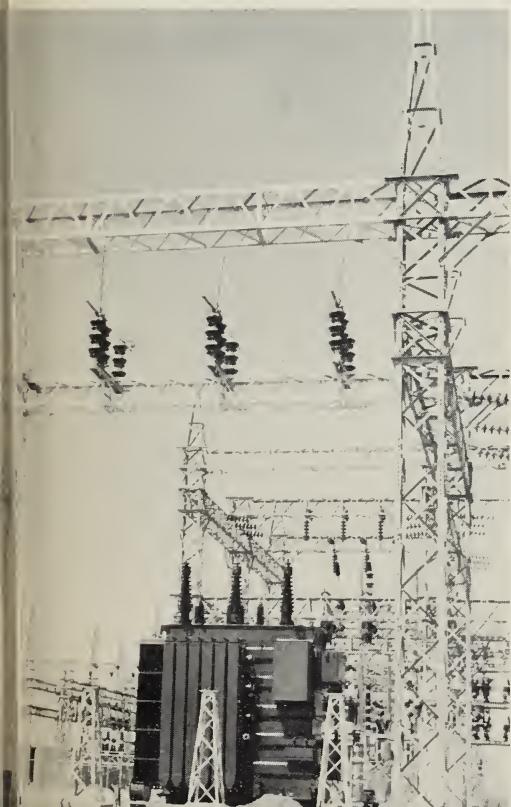
This float got laughs at the Cochise County Fair, while it told the story of electrical progress.

—this includes the co-op, the power supplier.

Agricultural development, in the way of a specialized crop such as lettuce, magnifies the number of jobs and services needed—they include fertilizers and application equipment; insecticides and germicides and other application equipment; well-drilling and pumping equipment; cultivation, planting and harvesting equipment; living and eating quarters for labor; and many others.

An unusual situation had occurred —some of the previous development for irrigation was in a district where natural gas was available for pumping and several pumping plants were equipped with gas-burning engines. The lettuce growers who have leased the irrigated land are converting to electric motors. Their reason is that they cannot afford to be without a dependable water supply; therefore, they cannot take a chance with costly breakdowns, which might take days to repair, with internal combustion pump engines.

The Sulphur Springs Valley Co-op staff members hasten to say that the situation is challenging. The nation's daily lettuce consumption is 300 carloads. The Willcox supply is estimated at 200 carloads daily during harvest—this is 2/3rds of the nation's need.



Lettuce irrigation requires much sub-station capacity.

SCHOLARSHIPS FOR FUTURE LEADERS



William Melton receives pen and pencil set from Deputy Administrator Ralph Foreman.

The Harrison County Rural Electric Membership Corporation at Corydon, Ind., took a long look ahead. In the future, it was going to need bright young people in the organiza-

tion. In the world we live in—more and more complex—these bright young people would have to have a good education. So the co-op set up an annual college scholarship, based on scholastic achievement and an appreciation of rural electrification.

The winner was announced at the recent annual meeting of the Harrison County co-op, and the seven high school youngsters in the contest were presented pen and pencil sets, on behalf of the co-op, by REA's Deputy Administrator Ralph Foreman.

The winner of the first annual scholarship was William Henry Melton of Corydon, who wants to attend Indiana State University. The scholarship will give him \$1,000 over a 4 year period, and summer vacation employment at the Harrison County REMC. He must maintain a B average and take on basic course in utility operation and another in the cooperative movement.

Contestants were senior students chosen by the principals of the high schools in the area served by the co-op for the highest scholastic record. The winner was chosen on the basis of the best essay written, in the opinion of the judges, English instructors at the State University.

Runnerup in the contest was Kathleen Johnston of Georgetown.

ILLINOIS PLAN—Fifteen electric co-ops are participating in a May 1 to July 15 promotion of refrigerator-freezers and freezers, limited to a minimum of 4 cubic feet of space. Choice of a frypan, a drill and drill kit, or four pieces of aluminum cookware, displayed in each co-op's headquarters, was the buying incentive offered to co-op members in newsletters and issues of *Illinois Rural Electric News*.

EIGHT PEOPLE
HAVE BEEN KILLED
SO FAR IN 1959
ON REA-FINANCED
RURAL LINES



"All of the Troup County Coop's employees won the safety awards," says Manager Taylor.



SAFETY is a STATE OF MIND

There is a plaque on the wall of the Troup County Electric Membership Corporation, La Grange, Ga. Everyone connected with the co-op is very proud of it. It states that co-op employees have worked more than 600,000 man-hours without a lost-time accident. To be exact, the figure was 608,698 man-hours at the end of calendar year 1958.

The insurance company which insures the Troup County co-op presented the plaque to E. J. Hicks, the co-op's line superintendent, at a dinner the company gave for all the co-op employees at the nearby Country Club.

It is the fourth such award to be presented to the Troup County co-op employees. Therefore, one might wonder why everyone, from the board of directors and the manager down to the newest employee, happens to be so proud of what has become a routine performance.

"It's because safety records don't just happen," says C. W. Taylor, manager. "They are the results of the conscientious efforts of every employee and the board of directors. A safety record is the result of a good

state of mind all through the establishment."

Troup County's state of mind began back in 1951, just after their last lost-time accident. An employee on the labor crew was helping fell a tree. The tree fell on him and broke his leg. Careless? Sure he was. And so was management, decided Manager Taylor and the board of directors, after thinking about the causes of the accident.

That was when the Troup County co-op's safety program was born. The board of directors were quick to adopt a safety policy, which can be summed up quickly in the words of C. B. Johnston, board member: "If there is just a chance that someone might suffer an injury, it pays to take time to plan to do the job safely."

There is nothing tricky about the Troup County program; it isn't done by magic.

"Basically, it is employee education and good planning. Once a month we have a safety meeting, with every employee present. And foremen conduct informed meetings before every job begins."

The hazards on every job are studied, guarded against, and brought to

the attention of all employees before a wheel turns.

Every man wears a hard hat and rubber gloves. Sometimes the job doesn't demand a hard hat, but they are worn anyway. Every man knows, through education, the value of hard hats and gloves.

The co-op owns all personal protective gear and other equipment, and keeps it in good shape. Once, early in the program, a laborer clearing brush got a brier in his eyes. Hicks bought him a pair of goggles, locally, out of his own pocket.

"All our equipment is good," says Hicks. "We can do jobs safely today with our hydraulic derrick that we wouldn't dream of doing a few years ago at all. We have to. We operate everything hot. We have a policy of never making outages, never interrupting service. Sometimes it is actually safer to work on a hot line than on a de-energized line—hot line operators are always thinking of safety."

Poultry farms and processing plants on Troup County lines make hot line work necessary.

Office workers are not omitted from the Troup County safety program. If safety is everybody's business, reasons Manager Taylor, then everyone should participate.

A major factor in employee attitudes, and their relationship to accident prevention is the co-op's employment policy.

"Every man on the job is a top-notch man who has been with us a long time," states Taylor. "The newest employee we have has been with us 2 years. Many, like Ed Hicks, have been with the co-op more than 2 decades. Every employee owns his own home. If they are good, we try to promote them, help them get ahead. In case one isn't, we help them get employed elsewhere."

Nor is consumer safety neglected. *The Poster*, co-op house organ edited by Louise Prickett, home economist and electrification advisor, regularly carries a series of safety articles directed toward the consumer.

Miss Prickett conducts cooking schools and other activities to encourage load building. Audiences run into the hundreds, overflowing the school gymnasiums and other meeting places. Door prizes, donated by local businessmen, are used as incentives.

Businessmen also donate big prizes to Troup County's big annual meeting, which usually is attended by 5,000 or more in the big open hall across the road from co-op headquarters. Partly, the beautiful Georgia October weather brings out the crowd; partly it is the fact that the program begins early and ends late, in order that shift-workers in La Grange's textile mills may attend.

Only 40 percent of Troup County's members are farmers. Most of the rest work in local textile mills, which work around the clock in three shifts, throughout the year.

"This gives us an unbelievably good load factor," states Manager Taylor. "It's one reason why our power sales program stresses household appliances. With us, it is a steady, even load."

Farming in the red clay hills of Troup County once meant cotton. Now very little cotton is grown. Dairying and beef cattle flourish on the year-round pastures.

"The best thing about our safety record is the good will it has built for us," admits Taylor. "I can't prove this translates itself into kilowatt hours sold directly. But it certainly helps to put consumers in the frame of mind to listen to our story on any subject."

HOTLINE SCHOOLS in ILLINOIS

**By A. E. Becker, Manager,
Association of Illinois Electric
Cooperatives**

Since their linemen needed hotline maintenance training, managers of Illinois rural electric cooperatives, back in 1954, asked the State Board of Vocational Education to set up a special school for this purpose. The Board referred the problem to the Illinois Job Training and Safety Committee, which supervises all co-op training activities in Illinois.

After deciding to establish a school, the Committee had to find a suitable site and financing for the construction of the necessary training facilities. Southern Illinois University offered a 10-acre tract of land on its campus near Carbondale. Housing and boarding facilities were nearby so this location met all of the Committee's requirements.

The next problem was constructing short sections of distribution lines to be used for training purposes, and obtaining such material as poles, hardware and conductors. Several line material companies generously agreed to supply the needed material so that the only cost to the 27 participating co-ops was that for the labor of building the training facilities. This came to about \$100 per cooperative.



Construction was completed in early 1955, and the school was opened for the first class on June 27, of that year. During the first 3 years, the school was opened for 6 weeks during the summer months. This summer it will be operated on a 4 week schedule. Cooperatives take turns in sending their crews. Each lineman attends for 1 week for two consecutive summers. When he completes the 2 week course, he receives a certificate attesting to the fact that he is eligible to perform all hotline maintenance work.

The Illinois hotline school has won the acclaim of safety experts throughout the country. One of the reasons it has been so successful is that intensified training for each enrollee is being made possible by limiting the number of students to six per instructor.

According to Glenn E. Strong and C. M. Scott, the school's two permanent instructors and also the men who conduct Illinois job training program throughout the year, "It's difficult, if not impossible, for one instructor to handle any more than six men at a hotline maintenance school and do a good job of it. For that reason, we gear the number of linemen per week to the number of instructors we have available." Besides Strong and Scott, major hotline tool companies furnish teachers free of charge.

In 1957, the training facilities were expanded to include hotline transmission instruction. Once again, line material companies donated equipment to build the short sections of transmission lines. In addition, each cooperative in the state contributed

\$100. So far, the school has an investment of about \$10,000, of which about half was donated.

In the opinion of Strong and Scott, the importance of having hotline training facilities available to cooperatives will be even more evident within the next 5 years than it is today. "The majority of our Illinois managers realize that it is becoming more essential each year to provide uninterrupted electric service. This means that linemen will have to work on the lines when they are energized. So that they can do this work safely and efficiently, it is necessary that they receive adequate training. A school such as the one we have in Illinois is the best answer to providing that training."

Since the school was started in 1955, 24 cooperatives have sent linemen. The enrollments were: 1955, 81; 1956, 88—72 completing; 1957, 64—13 completing; 1958, 76—31 completing. In 1957, 18 enrolled and completed the transmission training; in 1958, 17 enrolled and completed transmission training.

POWER use exchange

SELF-HELP TRAINING—Alabama co-op advisers got freezer facts first-hand from two experts within their own group in a training school held in statewide offices of Alabama Rural Electric Cooperative in Montgomery. Mrs. Sara Alexander of Clarke-Washington Electric Cooperative, Jackson, and Mrs. Joy Cooke with Alabama Electric Cooperative and Covington Electric Cooperative at

Andalusia, passed on their know-how in food freezing to several men employed as co-op electrification advisers. During a June-August promotion, Covington Electric Cooperative gave each member purchasing a 6 cubic-foot or larger freezer a choice of a steam iron, electric mixer, or electric frypan. Several Alabama co-ops participated in a similar promotion publicized by *Alabama Rural Electric News*.

19 YEARS ON THE

CO-OP BOARD

"With a fully electrified house, you can do a good job of housekeeping and still have time for community affairs," said Mrs. Ellen Logan of Creston, Mont., recently. She had just received congratulations from REA Administrator David A. Hamil for being elected again to the board of directors of the Flathead Electric Cooperative, Inc., of Kalispell, Mont. It was the nineteenth consecutive time she had been elected.

The Flathead co-op was organized for the first time in 1937. They held a reorganizational meeting the following year. Mrs. Logan was elected at that meeting. She has served continuously as secretary of the board since.

In all that time, the former school teacher has missed only four monthly meetings. However, she says she would have missed many more if her husband, Charlie Logan, had not



Mrs. Logan

driven her to Kalispell during the cold northern Montana winters.

Several times Mrs. Logan has refused to stand for the presidency of the co-op board, stating that she felt the presidency was properly a man's job.

The Logans have always been boosters for electric farming and living. Their farm home is now being rewired, with a 200 ampere service entrance and electric heat.

COUNTY-WIDE CLINICS — To start the 1958 freezer promotion season, Home Economist Daisy Miller of South Kentucky Rural Electric Cooperative Corp., Somerset, held 4 county-wide home freezer clinics during May. Clinics, sponsored by 28 dealers from 5 counties, drew a total attendance of 476 people. Dealers displayed home freezers and donated door prizes at each meeting. Advertising was done by radio, newspapers, and handbills. Program included: question and answer session on frozen

foods, proper freezer packaging materials, demonstration of making frozen salads and party foods, a preview of 1958 freezers, drawing for door prizes, and refreshments. Appliance surveys show a rapid increase of freezer saturation in co-op area: 17.4 percent of co-op members owned freezers in 1954; 36 percent in 1957. Co-op goal is to have 50 percent saturation by 1961. Follow-up to insure good operation of freezers bought includes home calls and kitchen parties.

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